

WHAT IS CLAIMED IS:

1. An assistant apparatus for a battery cover, suitable for use in a portable electronic device, the portable electronic device having a device body
5 and a battery cover, the battery cover being attached to the device body by a latch structure, the assistant apparatus for a battery cover comprising:

at least one elastic apparatus, configured on a first surface of the battery cover, the first surface adjacent to the device body, wherein a force of the elastic apparatus separates the battery cover from the device body after
10 releasing the latch structure.

2. The assistant apparatus for a battery cover of claim 1, wherein the portable electronic device is a mobile phone or a personal digital assistant.

15 3. The assistant apparatus for a battery cover of claim 1, wherein the battery cover comprises a battery.

4. The assistant apparatus for a battery cover of claim 1, wherein the elastic apparatus is a metal spring leaf, the metal spring leaf including a first
20 portion and a second portion, wherein the first portion is attached to the first surface, and the second portion is at an angle with the first portion, when the battery cover and the device body are on the latch, the second portion is compressed by the device body and the angle is changed, and after releasing the latch structure, the second portion pushes the device body so as to
25 separate the battery cover from the device body.

5. The assistant apparatus for a battery cover of claim 1, wherein the elastic apparatus is a spring.

5 6. The assistant apparatus for a battery cover of claim 1, wherein the elastic apparatus is a slice, the slice is attached to the battery cover and at an angel with the battery cover, when the battery cover and the device body are on the latch, the slice is compressed by the device body and the angle is changed, and after releasing the latch structure, the slice pushes the device body so as to
10 separate the battery cover from the device body.

7. The assistant apparatus for a battery cover of claim 6, wherein the slice and the battery cover are integrally formed.

15 8. The assistant apparatus for a battery cover of claim 1, wherein the elastic apparatus is an elastic pillar, the elastic pillar is configured in a pit of the battery cover, when the battery cover and the device body are on the latch, the elastic pillar is compressed by the device body and a height of the elastic pillar is changed, and after releasing the latch structure, the elastic pillar pushes the
20 device body so as to separate the battery cover from the device body.

9. The assistant apparatus for a battery cover of claim 8, wherein a material of the elastic pillar is rubber.

10. An assistant apparatus for a battery cover, suitable for use in a portable electronic device, the portable electronic device having a device body and a battery cover, the battery cover being attached to the device body by a latch structure, the assistant apparatus for a battery cover comprising:

5 at least one elastic apparatus, configured on a first surface of the device body, the first surface adjacent to the battery cover, wherein a force of the elastic apparatus separates the battery cover from the device body after releasing the latch structure.

10 11. The assistant apparatus for a battery cover of claim 10, wherein the portable electronic device is a mobile phone or a personal digital assistant.

12. The assistant apparatus for a battery cover of claim 10, wherein the battery cover comprises a battery.

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13. The assistant apparatus for a battery cover of claim 10, wherein the elastic apparatus is a metal spring leaf, the metal spring leaf including a first portion and a second portion, wherein the first portion is attached to the first surface, the second portion is at an angle with the first portion, when the battery cover and the device body are on the latch, the second portion is compressed by the battery cover and the angle is changed, and after releasing the latch structure, the second portion pushes the battery cover so as to separate the battery cover from the device body.

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14. The assistant apparatus for a battery cover of claim 10, wherein the elastic apparatus is a spring.

15. The assistant apparatus for a battery cover of claim 10, wherein the
5 elastic apparatus is a slice, the slice is attached to the device body and at an
angel with the device body, wherein when the battery cover and the device
body are on the latch, the slice is compressed by the battery cover and the
angle is changed, and after releasing the latch structure, the slice pushes the
battery cover so as to separate the battery cover from the device body.

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16. The assistant apparatus for a battery cover of claim 15, wherein the
slice and the device body are integrally formed.

17. The assistant apparatus for a battery cover of claim 10, wherein the
15 elastic apparatus is an elastic pillar, the elastic pillar is configured in a pit of the
device body, when the battery cover and the device body are on the latch, the
elastic pillar is compressed by the battery cover and a height of the elastic pillar
is changed, and after releasing the latch structure, the elastic pillar pushes the
battery cover so as to separate the battery cover from the device body.

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18. The assistant apparatus for a battery cover of claim 17, wherein a
material of the elastic pillar is rubber.